3: Anonymous U-4 (no date) 1920 RH1 Caucasia RH1

133 Sea of Azov, is navigable by light-draught steamers for
505 141 miles from its mouth. On the river and the various tributaries forming its basin there are 964 miles of water suitable for floating timber. The *Terek*, which flows into the Caspian, is navigable by light vessels for 112 miles from its mouth, but there is no steamer traffic. Timber can be floated for 320 miles. It has no tributaries of importance.

In Transcaucasia the navigable rivers are the Chorokh and Rion, emptying into the Black Sea, and the Kura, emptying into the Caspian. The *Rion* is navigable for 83 miles from its mouth at Poti, but no steamers can be used. Timber is floated or rafted for 123 miles. The *Kura* is navigable for 390 miles from its mouth, and of this distance 197 miles are suitable for steamers. Including its tributaries, the basin of the Kura provides 1,098 miles of water upon which timber-floating is possible.

[656] All these navigable waters were under the care of the State, which, through the Ministry of Ways and Communications, was responsible for their maintenance and improvement.

There are no navigable canals in the Caucasus. For irrigation canals, see p. 59.

(c) *Railways*

496 In 1912 there were 2,442 miles of railway in the Caucasus. 994 miles being in Ciscaucasia and 1,448 miles in Transcaucasia. These are generally of 5-ft. gauge, and, with certain exceptions indicated below, are of single track.

Principal Railways.—There are two principal railway systems—the Vladikavkaz and the Transcaucasian.

[471] Both were constructed and maintained originally by private companies, but the latter was acquired by the State in 1906.

(i) The main line of the *Vladikavkaz Railway*, 819 miles in length, runs from Rostov-on-Don (where con-

3: Anonymous U-4 (no date) 1920 RH1 Caucasia RH1

the falling off of supplies from Russia since the outbreak of war. Up to 1914 the export of oil was considerable.

There were 2,020 acres of land under *tea* along the Black Sea coast in the Province of Batum and 75 acres in the Government of Kutais in 1914. Of this area, 1,080 acres were in the Imperial Domains, 489 acres were the property of the firm of Popoff Brothers, and the remaining plantations belonged to thirteen villages near Chavka. The revenue from the sale of tea was in 1909 about £26 per acre on the Imperial plantations. As a result of the success achieved on the Imperial Domains, tea-growing was beginning to be taken up as a local industry, and the National Government granted a sum of about £1,500 towards the construction of a factory at Batum, under the management of the Batum Agricultural Society, where locally-grown tea could be cured. Another factory was also to be erected at Ozurgeti, under the management of an instructor from the Imperial plantation at Chavka. The cultivation of tea was proceeding successfully at Ozurgeti in 1914. In that year the plantations near Batum produced about 160 tons of leaf.

Tobacco is grown in all the provinces of Caucasia except Stavropol, where its cultivation has been abandoned since 1911; but the most important centres are in Kuban, Sukhum, and Chernomoria. The Kuban plantations apparently give the heaviest crops,[1] but the tobacco of the best quality grows on the Black Sea coast, especially near Sukhum and Sochi. Of the total Russian output of high quality Turkish tobacco in 1915, 90 per cent. came from Caucasia, and of this 57·6 per cent. originated from Kuban, 21·2 per cent. from Sukhum, and 11·2 per cent. from other districts. In 1914, out of a total cultivated area of 80,500 acres, producing 32,600 tons of tobacco, 29,000 acres, pro-

[1] Judging by the returns for 1914; but the figures vary in different reports, and moreover the yield fluctuates considerably according to the weather, so that the figures for one season are not a safe basis for generalization.

3: Anonymous U-4 (no date) 1920 RH1 Caucasia RH1

prices. Special varieties of conifers, birch, oak, and palm grow in the Caucasus. The Caucasus palm or *samshita* is not plentiful, but is greatly valued. The commonest tree is the beech, which occupies 25 per cent. of the total forest area; the oak occupies 16·7 per cent. and the pine 8·1 per cent. Plantations of bamboo at Chavka and Sukhum have been very successful, the cane being used for industrial purposes.

The Italian firm of Sbrajavacca was in 1914 exploiting the pine-forests of Svanetia and Ratce, the timber being floated down the river Rion. The firm has saw-mills at Socilava and Poti.

The Russian State levied on all timber a royalty varying according to the kind of wood, &c. The State also fixed the amount of timber to be felled in each area, which was then sold to the highest bidder. The total amount of timber which might be cut in the Caucasus was fixed in 1913 at nearly 220,000,000 cubic feet, of which only a little more than a quarter was actually delivered.

(*d*) *Land Tenure*

The Caucasus as a whole has no fixed system of land tenure, nor are any of the characteristic Russian features of land-holding found there. The various kinds of landowner may be divided into six classes: the old nobility of Georgia; Tatar and Armenian peasant holders; nomad pastoral tribes, who occupy large areas of steppe land, especially in Stavropol Province; Russian settlers, placed on land vacated after the conquest; the Russian State, which owned large areas, mainly forest; and the Imperial family, which had acquired valuable appanages in the Caucasus.

No figures are available to show the proportions in which the land is held by these various owners; and, as a large part of the total productive area is occupied by nomads, no exact statistics would be possible. Moreover, recent events have to a great extent obliterated the old divisions, and new claims to ownership of much valuable land will have to be settled in the course of time.

3: Anonymous U-4 (no date) 1920 RH1 Caucasia RH1

(4) Minerals

The mineral resources of Caucasia have never yet been systematically surveyed, but they are known to be both varied and extensive. As at present worked, and excepting mineral oils (see below, p. 68)* which as a source of wealth have hitherto stood alone, the most valuable products are manganese and copper.

Baryta is produced in Kutais by six enterprises; the output in 1910 amounted to 1,750 metric tons, or five-sixths of Russia's total output.

Coal is mined chiefly at Tkvibuli, in Kutais, where the mines are served by a branch railway. This coal yields a dense strong coke useful for metallurgy. A very little coal is also produced in Kuban, and lignite of poor quality is found and consumed locally in the Migri valley, at Manglis and Borchka. Unexploited deposits exist on the Black Sea coast, where the Tkvarcheli forest is believed to cover 54,000 acres of coal of excellent quality. A large deposit occurs near Tiflis, in the valley of the River Oltinsk, and coal has recently been found at Akmetovskoi. The production in recent years shows a steady increase, the total output having been 45,700 metric tons in 1910, 51,000 in 1911, 69,000 in 1912, and 75,000 in 1913.

Copper.—The rich copper deposits have hitherto been only partially worked, but three distinct areas are now exploited by foreign capital:

(i) The Kedabek mines, in Elisavetopol (north-east of Lake Gokcha), are worked by the American firm of Siemens Brothers. There are three mines, at Kedabek, Kalakent, and Karabulakh, which are connected by a metre-gauge railway. The ore contains from 2 to 20 per cent. of copper, and the production of copper in 1913 was 1,272 metric tons. Benzene brought from Baku by pipe line is used for smelting, whereas the companies referred to below use electricity. Siemens Brothers had begun before the war to exploit copper at Kvartshana in the Province of

* [see cat. 116 -- Analyst]

471 Batum, and were about to erect blast furnace smelting 36 works there.

(ii) The Allahverdi, Aktala, and Shambru mines, in the Lialvar Mountains (Tiflis), are worked by the French Compagnie Métallurgique et Industrielle du Caucase. At Allahverdi, the most productive mine, the ore (copper sulphide) contains 7·18 to 18·56 per cent. of copper, and the output of copper in 1913 was 4,760 metric tons.

(iii) The Dzansul, Chiakathevi, and Erga mines, on the borders of the Provinces of Batum and Kutais, are exploited by the Caucasus Copper Co., a British company formed in 1900. Heavy initial outlay and climatic difficulties necessitated a large capitalization, but in 1913, when some 12,000 workmen were employed, the profit obtained was £87,800. The ore in the mines contains from 16 to 18 per cent. of copper. In 1912 the production was 40,000 metric tons of ore and 3,000 metric tons of copper, but in 1913 the progress of the company was described as disappointing, the amount of copper produced being only 3,280 metric tons.

In addition to the above, there are various native enterprises. In the Okchi valley in the Sangesur district of Elisavetopol, old mines of great productivity have been reopened, but pack-horses are the only available means of transport. The Katar mine in Sangesur is now worked by electricity. In the Pambak Mountains, also in the Government of Elisavetopol, there are mines at Delijan, Sirimadan, Sagali, Mishkan, and Seifalu; at the last of these the ore yields from 20 to 30 per cent. of copper. The most important native companies are the Melik Azariantz, the Kunduroff, and the Grielsky.

328? The output of copper in Caucasia was 7,536 metric tons in 1908, 9,520 in 1909, and 7,631 in 1910. In 1912, 303,225 metric tons of ore were mined, of which 200,000 were smelted, yielding 9,270 metric tons of metal. In 1913 the production was 9,220 metric tons. The figures for 1912 and 1913 refer to the British, French, and American companies only. It is not clear whether those

3: Anonymous U-4 (no date) 1920 RH1 Caucasia RH1

317 to unscientific methods of removal. Much ore is con-
[364] sequently wasted. Since 1909 an increasing amount of ore has been washed for the preparation of ferro-manganese, and this has resulted in the serious pollution of the River Kvirili, which runs through the mining district. Regulations have been made to control the practice of discharging refuse into the river, and plans formed to collect the refuse-laden water in an artificial basin, where it could be purified and utilized for generating electric power to be employed in the ferro-manganese furnaces. Little improvement, however, had been effected by 1914.

● [471] Many small native firms are occupied in manganese-mining. A little before the war foreign capitalists were acquiring manganese-bearing land, which is usually leased in small lots of from half an acre to 50 acres in extent; about 1910 there was an extensive acquisition of unworked land by German firms. The recent tendency has been for the control of the industry to pass from small to large concerns.

There was a heavy slump in manganese just before 1908, but since that year the output has greatly increased: in 1910 it amounted to 548,300 metric tons; in 1911 it fell again to 451,600 metric tons, but in 1912 it rose to the high figure of 913,500 metric tons, and in
[439] 1913 to 1,051,500 metric tons. Nearly the whole output is exported; export figures are given on pp. 83 and 84. The trade was very heavily hit by the war.

Chiaturi competes with India and Brazil for pride of place as supplier of manganese to the world. It has, however, been handicapped by difficulties of transport, though favoured to some extent in the matter of freight rates. The Sharopan–Sachkeri rail-
[492] way lies some distance from the mines, and the ore has to be conveyed in carts or on pack animals to the station, whence further carriage to Poti or Batum is both slow and expensive. The Association of Manganese Producers (see p. 79) had up to 1914 failed to secure from the State anything beyond promises of improvement.

3: Anonymous U-4 (no date) 1920 RH1 Caucasia RH1

Other places in Caucasia at which manganese occurs are Kvartala in Batum, where the French Manganese Ore Co. had arranged for the erection of plant at the end of 1913, Seifalu in Elisavetopol, and in the neighbourhood of Samtredi and Novo-Senaki. 347 [471]

Huge beds of *marl* are now being exploited near Novorossiisk by the cement companies there.

Salt.—There are rock-salt deposits in Erivan and Kars. and a certain amount of evaporated salt is produced in Baku and Daghestan. The total output of salt in 1910 was 28,340 metric tons, which consisted of 16,600 tons of rock-salt from Erivan, 6,930 tons of rock-salt from Kars, 4,370 tons of evaporated salt from Baku, and 440 tons of evaporated salt from Daghestan. The total output in 1911 amounted to 37,830 metric tons, and in 1913 to 32,260 metric tons.

Zinc is worked by the Alagir Smelting Co. at Sadon and Alagir, and from blende ore near Vladikavkaz. The company's works, which are 60 miles from the mines, are fitted with modern plant. In 1914 the company were planning a new exploitation, on a large scale, of both lead and zinc. The output of zinc in 1910 was 3,400 metric tons, and in 1912 the combined production of zinc and argentiferous lead was 26,000 metric tons. 328

Other Minerals.—At Soglik, near Dash Kessan, in the Gokcha range (Erivan) there is an inexhaustible supply of *alunite*, containing 37·58 per cent. of alum, but it is very little worked. *Antimony* is mined in small quantities in Tiflis. There is *arsenic* ore at Bechenakh, but up to the present it has not been exploited. There is a small output of *asbestos* from Sharopan, Vzhinevi, and Lechgum in Kutais. There are excellent *bitumen* beds on the Black Sea coast, and *asphalt* is a by-product of the petroleum industry. *Cobalt* is mined in small quantities in Elisavetopol. White *diatomite* (infusorial earth), containing 87 per cent. of silica, is worked at Kissatip, near Akhaltsikh (Tiflis). *Emery* is found at Karabulakh (Elisavetopol). *Gold* exists in very small quantities in the alluvial deposits of the Alindja river, and in the ore of the 135 316

3: Anonymous U-4 (no date) 1920 RH1 Caucasia RH1

is yielded by Balachani. Grozni oil is particularly adapted for the manufacture of first grade petrol, great quantities of which have accumulated there during the war.

The following particulars may be given of the chief oil-fields:

(i) *The Baku Fields.*—The first well was bored at Baku in 1871. Since that year the oil-fields have been developed one after another, with capital supplied partly by the Swedish firm of Nobel Brothers, and partly by the French Rothschilds and others. The Balachani–Sabunchi–Romani field occupies about 2,640 acres on a plateau a few miles from the Caspian Sea.[1] At Sabunchi eight very productive belts are known. At Romani there was a natural depression into which ran the water and refuse from adjoining properties, forming a lake of 432 acres; this was drained in 1904 by the Moscow Caucasian Co., by means of a subterranean channel, and an outlet into the Caspian Sea was also provided, which serves as a permanent drain for the whole oil-field. Bibi-Ebyat contains five rich belts, but its productivity is declining. Puta, a continuation of the Bibi-Ebyat fields, has been very little developed. Zabrat has been prospected by a French company, but the yield is only spasmodic.

Between 1908 and 1911 there was a marked decrease in production in all but one of the old Baku oil-fields, as seen by the following comparative table:

	Balachani.	*Sabunchi.*	*Romani.*	*Bibi-Ebyat.*	*Total.*
	Metric tons.	Metric tons.	Metric tons.	Metric tons.	Metric tons.
1908	1,124,784	3,181,936	1,222,304	1,914,128	7,443,152
1911 [2]	755,200	2,131,200	1,019,200	1,225,600	5,131,200

After 1911, in spite of new borings, the production, though increased, did not reach the 1908 level, whilst after 1914 the Surachani output is reckoned in with the old Baku output, and the separate yield of the original oil-fields cannot therefore be calculated. There

[1] On this plateau 120,000,000 gallons of oil were thrown up in 1873 before it was understood how to conserve it.

[2] Ten months only.

3: Anonymous U-4 (no date) 1920 RH1 Caucasia RH1

The European Petrol Co., a British concern, was founded in 1893 to exploit the Grozni oil, and another British company, the Kazbek Syndicate, struck a prolific fountain in 1903. The Anglo-Terek Co. found oil on the western field in 1907 at 2,500 ft. deep, and the parallel ridge of Sundja is expected to prove rich. The area occupied by wells in 1913 was 2,497 acres, in the hands of twelve firms. Several new fields were proved in 1913 in the neighbouring localities of Belik and Chermoff, and 200,000 claims have been staked; the whole country round Grozni for a radius of about 30 miles has been covered with oil claims. The principal new oil districts are Sleptsovskaya, Voznesenskaya, Broguni, Kakhanovskaya, Isstissu, and Chir-Urt nearer Petrovsk. Pipes from both eastern and western fields take the oil to Grozni station, and in 1914 pipes were completed leading to Petrovsk, on the Caspian Sea.

In 1917 the Grozni oil-fields employed 9,000 workmen. The average number of producing wells in that year was 398.

The Grozni oil-fields suffered much more than those of Baku or Maikop in 1918. Almost all the oil-wells and plant have been destroyed or burnt, so that production will be impossible for some years to come.

(iii) *The Maikop Fields* have been scientifically exploited since 1908 only, chiefly by British capital. There are four districts, Shirvansky, Apsheronsky, Nephtianoi, and Hadizhensky, and the wells number about 200. Before the completion of the new Armavir–Tuapse railway, the oil went either to Novorossiisk or Petrovsk. There are two pipe lines, one from Maikop to Tuapse, the other from Shirvansky to Ekaterinodar for transport on the Ekaterinodar–Novorossiisk branch railway; both pipes belong to the Maikop Pipe Line and Transport Co., Ltd., a British concern. Nearly all the Maikop oil has been consumed in Russia. It is refined at Ekaterinodar. The output has been very disappointing, and has steadily declined since 1912.

315 (iv) *Other Sources.*—Berekei and Kaikent in Daghestan 47 have been exploited, but in both the oil is damaged by the inflow of sulphurous water. Berekei was closed in 1907; Kaikent, in the hands of the Anglo-Russian Petrol Co., only yields spasmodically.

Kaluga, in Kuban Province, showed oil in 1907, but work only began in 1914. The Vladikavkaz Railway Company hold 15 plots of promising petroliferous land there, and intend to use the oil for the railway. The prospects are good.

In Tiflis Government two localities have been exploited, one east of Tiflis and the other at Telav. In 1904 the Southern Oil-Fields of Russia Company was working there, and in 1914 the Tiflis locality was again being explored.

315 In 1914 prospecting was going on at many other places, where there are unmistakable indications of large quantities of oil, notably at Guria, where a thick black oil was found, and at Shemakha, Jevat, and Lenkoran. Jingy (or Djeng), near Shemakha, forms the extremity of a huge oil-field with a reputed area of 70,000 square miles, lying chiefly in the Ural Province. Nobel Brothers have already sunk wells there with good results; in October 1915, 225 plots of petroliferous ground near Borz and Jingy were declared open for new claims.

Oil is also obtained from numerous wells on small plots worked by peasants, especially in the Grozni and Maikop districts.

(*b*) *Methods of Working*

At Baku the Russian system of boring is still in use, the American, although generally superior, being declared to be unsuccessful on account of the frequency of landslips and fractured tubing. Another view, however, is that the continued use at Baku of a comparatively wasteful system has been a factor contributing to the successful competition of American oil in the world market, in spite of the fact that at Baku a few square miles produce as much oil as several

3: Anonymous U-4 (no date) 1920 RH1 Caucasia RH1

thousands of square miles in America, and that a single Baku oil fountain has actually yielded as much in one day as 25,000 wells in America. The American system has been adopted at Grozni and Maikop. Manila ropes have been very generally replaced by wire ropes. Pumps cannot be used at Baku to raise the oil, and it is therefore baled by steam or electric power; air-lifts have recently been found successful. In default of fresh water, steam at Baku has to be obtained from sea-water. which causes rapid destruction of the boilers.

Oil is conveyed to the Black Town (Baku) refineries in pipe lines, of which in 1906 there were 39 in private ownership besides the State pipe lines. Large firms had their own pumping stations in addition to those provided for general use. Fountain oil was pumped direct to the stations and measured there. Some of the Bibi-Ebyat oil goes by barge.

From Baku the oil has four means of transit: by rail to Batum or Poti; by pipe line (kerosene) to Batum; by rail to Petrovsk; and by tank-steamer to Astrakhan and thence up the Volga. The last route, by which the Volga factories are supplied, is only open from April to October.

Electric power was steadily replacing steam power on the oil-fields in 1914. The Spies Petroleum Co. at Grozni run their works almost wholly by it. There are generating stations at Sabunchi, belonging to Nobel Brothers; at Zabrat, belonging to the Société de la Caspienne et de la Mer Noire; at White Town (1,200 horse-power); and at Baieloff (4,500 horse-power). At Sabunchi and Zabrat the Surachani gas is used to generate electricity.

(6) Manufactures

Ciscaucasia and Transcaucasia have each their own characteristic industries, which, in the former case, are those proper to a region predominantly agricultural, and in the latter are dependent on the output of the oil-fields.

274 22,000,000 gallons in 1914. Were French methods of manufacture employed more extensively, the industry might be greatly developed. There is an Italian firm at Kislovodsk in Terek which makes Riesling and other wines under modern conditions.

Distilling is in part an independent industry and in part a means of utilizing the inferior wines. In 1913 there were 15 distilleries—8 in Kuban, 4 in Terek, 2 in Stavropol, and 1 in Kutais—and the output of alcohol in that year was 8,193,000 gallons, of which more than two-thirds were distilled in Kuban.

438 *Other industries* of the country may be very briefly
471 enumerated. A *tea* factory has recently been opened at Chavka, and has an annual output of about 55 tons, and other factories are (or were) being built with Government aid at Baku and Ozurgeti. A *beet-sugar* factory, started in 1913 at Gulevichi, was brought to a standstill for want of beetroot in 1914. There are three *saw-mills* at Tiflis; the Italian firm of Sbrajavacca has saw-mills at Socilava and Poti, which turn out 300 cubic metres daily, and Ananov Brothers have small saw-mills in Kutais, driven by electric power. A factory for making *bamboo furniture* was opened at Chavka in 1907. There are nine *brick* and *tile* factories at Baku and four tile factories at Tiflis, while *pottery* works have been opened at Ksauka, Tiflis, by an Italian firm, which also makes tiles. *Soap* is made at Tiflis, and *sulphuric acid* at Baku.

(7) Power

377 In 1914 there were ten chief power-stations: near Beli Ugol on the Podkumka river (1,000 horse-power); near Sukhum on the Besletk river (owned by the Sukhum Electric Co.); near Gagri on the Jockvar river (working the climatic station); at Batum (water-driven), supplying Batum with electricity; at Kutais, supplying power for Ananov Brothers' saw-mills; at Sanain (700 horse-power), belonging to the Caucasus Metallurgical Co.; at Katar copper mines (Sangesur

3: Anonymous U-4 (no date) 1920 RH1 Caucasia RH1

district); at Dzansul copper mines (1,000 horse-power); and two at Erivan.

Smaller electric plants are to be found at New Athos Monastery (at Goro); at Borzhom, on the Grand Ducal estates; and at Akhalkalaki, in private hands.

The electric power-stations on the Baku oil-fields have already been mentioned (see p. 73).

The water-power offered by the rapid streams of the Caucasus has hitherto been almost entirely neglected, but in 1914 an important scheme was set on foot for the erection of two large power-stations, one on the Terek at Kazbek on the Georgian Military Road, and the other at Elenoffka, in Erivan, utilizing the waters of Lake Gokcha. The concession for the erection of turbines and generators for supplying power to all the industrial centres of Caucasia as well as for the lighting of cities was granted to a British company, and preliminary work had been carried out by August 1914.

A scheme was also under discussion in 1913 and 1914 for utilizing the refuse-laden overflow of the River Kvirili for generating electric power to be used in ferro-manganese furnaces.

(C) COMMERCE

(1) Domestic

(a) *Towns, Markets, and Fairs*

Baku, besides being the refining centre for the oil produced in the neighbouring fields, is also a distributing centre for the imports of Central Persia and Transcaspia. The volume of trade which passed through Baku to and from Persia and Russian Central Asia in 1912 amounted to over 5,000,000 tons, and was steadily increasing in 1914 at the expense of that of the trans-Armenian and trans-Mesopotamian routes. The population of Baku and the adjacent oil-fields in 1914 amounted to nearly 380,000. In 1909 the municipality raised a loan of £2,842,000 (of which £1,300,000 was

(*b*) *Organizations to promote Trade and Commerce*

It is only within recent years that any efforts towards 411
the organization of the trade and industry of Caucasia have been made, but before the outbreak of war a good deal had already been done in that direction. The first chamber of commerce in the country was established at Batum in 1910. The number of trade associations increased rapidly, especially in Ciscaucasia, where the Cossacks take kindly to co-operation, and many credit societies were formed.

The chief organizations confined to particular industries were the Association of Baku Naphtha Producers, the Manganese Producers' Association, and the Caucasian Cotton Growers' Association. The first of these levied a tax of 5*d.* a tin on oil products, which it expended on hospitals, &c. It had a statistical bureau, published journals, and held an annual conference which was attended by delegates from the committees of the various oil interests and by a representative of the Minister of Agriculture. The Manganese Producers' Association also levied a tax, which was devoted to improvements in plant, &c. It brought pressure to bear on the State to improve railway facilities and rolling-stock, and was anxious to secure the connexion of the mines with the railway, but did not succeed in this. One of the objects of the Caucasian Cotton Growers' Association was to increase the cultivation of cotton in Caucasia and Russian Central Asia, so that the Central Russian mills could be fed entirely with home-grown supplies. Extensive irrigation was among its schemes.

(*c*) *Foreign Interests*

The largest field for the investment of foreign capital 471 ●
in Caucasia is of course the oil industry. This being 315
a matter of international finance, it is impossible to gauge with precision the share which any particular nation has therein; but it was stated in 1919 by an expert of the *Mining Journal* that the controlling

3: Anonymous U-4 (no date) 1920 RH1 Caucasia RH1

power was the Deutsche Bank. Of the firms engaged in extracting oil, the Swedish house of Nobel Brothers has the largest interests, its production being double that of any other single firm. French companies financed by the Rothschilds also figure largely in the Baku fields. The chief of these is the Société de la Caspienne et de la Mer Noire, which in 1912 combined with others, among them the British concern known as the Schibaeff Company, to form the Royal Dutch Shell Combine, which is said to be responsible for 11·8 per cent. of the total Baku output. British interests in the Baku fields are comparatively small, but at Grozni and Maikop they are predominant. During the Maikop boom sixty-six companies were formed in London, but of these only five are still working. In 1913 a British company, the Guria Petroleum Corporation, Ltd., acquired a lease of some 70 square miles of land between Batum and Poti. Estimates of the total value of British capital invested in Russian oil-fields vary from £10,000,000 to £17,000,000. Armenian interests are rapidly increasing, especially in the new oil districts round Grozni.

Copper is mainly mined with the aid of British, French, and American capital. The manganese industry, on the other hand, has hitherto been for the most part in native hands, though in recent years British, Dutch, German, and French have begun to participate in it.

Franco-Jewish financiers supplied the capital for the construction of the Transcaucasian railway, which was taken over by the State in 1906. In connexion with the railway expansion schemes of more recent date the Anglo-Russian Trust Company, having a capital of £1,000,000 and debenture stock amounting to £500,000, was formed to place the shares of the Armavir–Tuapse, the Black Sea–Kuban, and the Kakhetian railways on the London market, principal and interest in each case being unconditionally guaranteed by the Russian Government. The same company also invested in the municipal 5 per cent. gold bonds of the city of Baku.

3: Anonymous U-4 (no date) 1920 RH1 Caucasia RH1

British capital has played an important part in various other public enterprises.

Certain minor commercial undertakings, such as pottery-making at Tiflis, wine-growing in Terek, and timber exploitation in the Rion district, are in Italian hands.

(d) *Methods of Economic Penetration*

For some years past the Germans have adopted their usual business methods with success in the Caucasus.[1] They appointed agents who spoke Russian fluently, and who were invested with full powers to act for the firms they represented. A single firm frequently offered widely varying lines of goods, of which the agents could produce samples. All catalogues and price-lists were printed with Russian quotations in the Russian currency, and were therefore much more popular than those of British firms, which were invariably presented in English only, with prices quoted in English money.

The nearest British agencies were at Rostov-on-Don. British firms were unwilling to give the credit expected by Russian merchants, and appeared indifferent to local prejudices and preferences in regard to the nature of goods to be supplied. They were, therefore, at a disadvantage in competing with the more enterprising German. In certain lines of goods, such as ready-made clothes, haberdashery, boots and shoes, drugs, all kinds of fancy goods and stationery, Germany and Austria-Hungary held the market; and they were beginning to encroach on the steel, agricultural machinery, engine, and motor trades, once almost exclusively British.

(2) Trade with Russia

Most of the manufactured goods required by Caucasia are supplied by Russia, the chief exceptions being machinery and other metal goods; produce of various

[1] In 1916 a German-Georgian society was established in order to cultivate economic intercourse between the two countries.

5: Allen H-4 (no date) 1923 RH1 Caucasia RH1

[1811-1917]

Machabeli, who founded a daily paper. The style of this school was for the most part romantically patriotic, and it appealed primarily to the large and impoverished aristocratic class; but of all its disciples Ilia Chavchavadze alone had a following among the people. In general, the Russian Government had little to fear from the patriotic movement of the nobles; the majority of them served faithfully, some with distinction, in the Georgian regiments which played an important part in the Caucasian Campaign of 1877–8. Finally, the incorporation, in 1884, of the hitherto distinct Georgian army in the general military organisation of the Russian Empire marked the disappearance of the last remnant of the independence of the Georgian kingdom.

With the economic development of Transcaucasia the subversive social doctrines already spreading among the workmen of European Russia reached the Caucasus, and the Tiflis administration was confronted with a movement more real and more dangerous than the sentimental romanticism of the native princes. In 1870 European capital began to exploit Baku, and in the same year operations were begun at the great manganese deposits of Chiaturi. The construction of a railway line from Poti to Tiflis had been begun in 1867, and in 1883 this line was continued to Baku. In 1884 foreign capital, chiefly that of the Rothschilds, began to build a port at Batum. During the following thirty years the industrialisation of the Caucasus proceeded. Baku became one of the greatest petroleum centres of the world; further deposits of oil were exploited at Maikop and Grozni; another railway soon linked these towns with the Black Sea, the Caspian and Baku, and Russian, Armenian and foreign companies hastened to undertake the working of the rich manganese and copper deposits and the export of the silk, cotton, timber and wine of the country.

This sudden development soon produced the most complicated problems; antagonisms social and racial were presented in an acute form. The oil-towns were the foci of these antagonisms and the scene of the more sanguinary events of 1904–6, but the conditions there reacted on, and were reproduced in a lesser degree in, Georgia. Foreign capitalism was more than usually aggressive, as it believed itself to be operating in a new country where it was in a position to exploit cheap and inexhaustible supplies of uneducated native labour; and a sudden transition from feudalism to industrialism had created a labouring class the more dangerous because it could

5: Allen H-4 (no date) 1923 RH1 Caucasia RH1

exist on the subject, and in Mr. Ghambashidze's book the existence of many important deposits is only broadly indicated.

Metals.—Manganese is the only metal which has been adequately worked in Georgia, and the growth of this industry has, by creating a community of miners, had an important effect on the industrialisation and subsequent growth of the Socialist movement in the country.

The principal manganese deposit covers an extent of about 100 square miles along both banks of the river Kvirili, in the Government of Kutais, the centre of the mining region being at the town of Chiaturi. The mines were at first worked by a large number of small native firms who, from lack of expert knowledge and capital, employed very unscientific methods, with the result that there was much waste. Later, however, foreign firms, chiefly German, began to purchase holdings and to organise the industry, and towards the end of the last decade of the nineteenth century Georgian manganese rivalled that of Brazil and India. Great Britain was at first the principal purchaser, but Germany and other Continental countries later absorbed the bulk of the output. The industry reached the height of its prosperity in 1906, when a decrease in demand, unusually high sea-freights, and foreign competition caused a depression which lasted until 1911. In that year a revival of prosperity took place, but with the closing of the Dardanelles at the end of 1914 the industry suffered a severe blow. At the end of 1918 work at the mines had practically ceased, and heavy stocks of ore were lying at Chiaturi and Poti.

Further deposits of manganese exist at Khvartata (Batum), Saifalu (Elisavetpol), Samtredi and Novo-Senaki (Kutais).

Outcrops of *copper* occur in many parts of the Caucasus, and its mining has been in progress from the remotest times. There are three main areas which are known to contain rich deposits: (1) south of Tiflis, and east and west of the Tiflis-Kars Railway; (2) in the Chorokh Valley; and (3) in the Zangezur region.

(1) The Kedabeg group, comprising the mines of Kedabeg, Kelakent and Kara-bulag, situated north-east of Gökcha in the Government of Elisavetpol, have been worked by the American firm of Siemens Brothers, whose production of copper in 1913 amounted to 1,272 metric tons. The Allahverdi, Akhtala and Shambru mines, in the Lialvar Hills, south of Tiflis, are worked by the French Cie Métallurgique et Industrielle du Caucase, their production in 1913 amounting to 4,760 metric tons. Native firms also work mines in the Phambak Hills,

5: Allen H-4 (no date) 1923 RH1 Caucasia RH1

and at Delijan, Kazakh, Sagali, Saifalu, and elsewhere in the Government of Elisavetpol.

(2) In the Chorokh Basin, the whole length of which is believed to contain rich deposits of ore, the British Caucasus Copper Co. has worked the Dzanzul mine, south of Borchka. In 1912 the production from this mine was 40,000 tons of ore and 3,000 tons of copper, but in the following year the output was disappointing. In the same region Siemens Brothers had begun operations at the Khvartshana mine.

(3) In the Zangezur region difficulties of transport have prevented adequate exploitation, but work has been undertaken by native firms, notably at Synik, Barabatum and Katar. Other considerable deposits are believed to exist in the Rion Valley round Telav and Zakatali, in the Sukhum district and along the Ossetian Military Road.

Iron has been little exploited in the Caucasus, but deposits have been prospected at Khamuli in Kutais, Chachak in Tiflis, on the banks of the Bzib near Sukhum, at Veden in Chechnia, in the Maikop district, and near Lenkoran.

There are deposits of *lead* and *zinc* ore at Sadon, near Vladikavkaz, in the neighbourhoods of Sukhum and Gori, in the Government of Elisavetpol, near Mozdok and Artvin, and elsewhere, but little exploitation has been undertaken. Deposits of *mercury*, *molybdenum*, *antimony*, *iron pyrites*, *cobalt* and *nickel*, and also small quantities of *gold* and *silver* exist, and would probably repay exploitation.

Non-Metals.—*Coal* is exploited in the Caucasus only at the mines of Tkhvibuli in the Government of Kutais, where the annual production for 1911–15 averaged about 5,000 tons. Much of it however was of poor quality. Rich deposits have been prospected at Tkvartcheli, in the Government of Sukhum, and another field has been located near Olti in the Government of Kars.

Deposits of *baryta* have been worked in the Government of Kutais; *asbestos* is produced at Shorapan and elsewhere in Kutais; *sulphur* abounds in the Government of Erivan; *salt* is produced in considerable quantities in the Governments of Baku, Erivan, Kars, and Daghestan; there are *bitumen*-beds on the Black Sea coast; *emery* is found at Kara-Bulakh; fine *lithographic stone* is obtainable at Amlivi, near Tiflis, and *pumice-stone* near Kars; *mica* and *graphite* also exist.

Mineral Springs.—The Caucasus is celebrated for its mineral springs, and before the Revolution many thousands of Russians, and even invalids from Western Europe, visited the health-

5: Allen H-4 (no date) 1923 RHI Caucasia RHI

giving waters. In the Northern Caucasus Essentuki, Piatigorsk, Kislovodsk and Zhelesnovodsk were the favourite resorts. In Transcaucasia Borjom, in the Government of Tiflis, an appanage of the Grand Duke Nicholas Nicholaevich, was the most popular resort, and its waters, rich in carbonic acid and comparable with those of Vichy, were exported to Russia, Western Europe and America—in 1913 to the amount of 9,000,000 bottles.

At Abas-Tuman, 40 miles from Borjom, and at Tiflis are hot baths, efficacious for the cure of skin diseases, nervous diseases, rheumatism, etc. Some of the springs contain the same qualities as Cauterets and Barèges in France, and Baden in Austria, while the climate of Abas-Tuman attracts consumptive patients.

Tskhalkubo, near Kutais, possesses warm springs whose radio properties are declared to be equal to those of Teplitz-Schönau in Bohemia. For this resort is prophesied an important future as soon as the nature of the waters is more widely known, and ordered conditions make it accessible to the timid invalids of Western Europe and America.

Petroleum (1) The Baku Fields.—The Baku area has hitherto been the most productive source of Caucasian oil. The older oil-fields lie in the Apsheron Peninsula—Balakhani, Sabunchi, Romani, Bibi-Ebyat and Zabrat—while there is a more recently discovered field at Surakhani. The outlying district of Benagadi and Holy and Cheleken Islands in the Caspian, are also worked by the Baku firms. The Baku fields had been exploited since ancient times, and from 1813 some attempt had been made by the Russians to develop their potentialities. An onerous concession system, however, discouraged private enterprise, and when, in the middle of the nineteenth century, a universal demand for crude-oil was created, the fields still remained almost untouched, and Russia became dependent on oil imported from America. In 1872 the concession system was at last abolished, and State participation in the profits was ensured by the imposition of an excise duty. Later, the nascent industry was further assisted by the imposition of a duty on oil imported into Russia.

In 1873 the Swedish Nobel Brothers commenced to bore in the Apsheron fields, and in the following years many foreign groups, principal of which were the French Rothschilds, obtained concessions. In 1908 the prosperity of the Baku fields reached its zenith, and in that year the Caucasian oil-fields together produced 22 per cent. of the world's output. Between 1908 and 1911, however, there took place a serious decrease, the output falling from nearly 7,500,000 metric tons in 1908 to just over 5,000,000 metric tons in 1911.

5: Allen H-4 (no date) 1923 RH1 Caucasia RH1

But in 1914, while the production of the older wells was still decreasing, the newly exploited field of Benagadi was giving a steadily increasing output; and it is unquestionable that the oil-deposits of the South-eastern Caucasus are by no means exhausted, and many rich areas remain to be prospected and exploited.

(2) The Grozni Fields.—The petroliferous area round Grozni had been worked for some years to supply local needs when, in 1893, the European Petrol Company, a British concern, commenced scientific exploitation. The oil-bearing area, at present developed, covers an area of about 2,500 acres, while new areas in the neighbourhood have been prospected for a radius of about 30 miles. The whole district is believed to be extremely rich in petroleum products, and experts consider that its output may eventually rival that of Baku. The Kazbek Syndicate and the Anglo-Terek Co., both British concerns, also own important holdings.

(3) The Maikop Fields, originally exploited by British capital in 1908, have proved disappointing. The output has steadily declined since 1912, and little oil has been available for export, the bulk being consumed locally.

Other petroliferous areas are known to exist in the regions of Shemakha, Jevad, Lenkoran, Telav and Ozurgeti.

Export and Import Trade.—The bulk of the trade of Transcaucasia was, before the war, carried on with other parts of the Russian Empire, by Batum and Poti to the South Russian ports, and by Baku to Astrakhan and Central Asia. Further Transcaucasia enjoyed the benefits of a growing transit trade between the Mediterranean countries and Russia on the one hand, and Persia and Central Asia on the other.

The Transcaucasus exported into Russia the whole of the copper produced and a proportion of the manganese, together with the bulk of the production of tobacco, tea, raw silk and cocoons, wine, wool and fruit. In return Russia exported into the Transcaucasus machinery and other metal goods and cereals, supplying one-fifth of the consumption of grain in the Transcaucasus. This last item is significant, for it implies the partial dependence of the Transcaucasus, itself an agricultural country, on Russia for food-supply.[1]

On the other hand the Transcaucasus exported to Europe,

[1] "Somme toute, la balance de l'industrie rurale accusait, en Géorgie, avant la guerre, plutôt des déficits que des excédents; le manque de blé n'était pas compensé par un surplus des autres branches de l'agriculture" (V. Vohtinsky, *La Démocratie Géorgienne*).

433
178 Azizbek, and Ordzhonikidze Canals; Dagestan ASSR: October Revolution, and Dzerzhinskiy Canals; Groznyy Oblast: Lenin, and Alkhanchurtovskiy Canals; Stavropol' Oblast: Nevinnomysk Canal). In the West Caucasus the problem is rather that of high precipitation, so that there the trend has been towards drainage systems (in the delta of the Rion and Kuban Rivers). In addition to this, several huge reservoirs have been created (Lake Mingechaur), in connection with hydroelectric plants. Dynamism also shows itself in stock raising in the introduction of cross-breeding of various Merino, Karakul, Mutton and Mutton-dairy varieties of sheep. Yet, it shows itself even more clearly in the various industries and connected fields, as within the new mining areas (for instance around Dashkesan), new oil fields (for instance in the Neftegorsk area), a whole series of hydroelectric power plants (at Yerevan, etc.), a brand-new steel mill (Rustavi), or industrial centers (Sumgait, Kirovabad), a new center of the chemical industry (in the Armenian SSR), railroad-building (such as the Black Sea coast and the Caspian Sea coast lines), and many other items, which all prove that this dynamism is a reality.

471
178 State planning also shows its effects in the Caucasian area. Everything is planned well ahead, and in Moscow; independent Caucasian economy-planning does not exist. Although

7: Columbia U. S-4,5 1956 RH1 Caucasia RH1

since the death of Stalin there are some indications, for instance, in the case of the Azerbaijan oil ministry, that the central government will foster local rule in the future.

In the realm of state planning, the Caucasian administrative units represent a solution partly on economic and partly on nationalistic lines. The fact that nationalistic features are more emphasized in this area than elsewhere in Soviet Russia, is due to the ethnic complexity, not to say confusions of the Caucasus. In the Northern Caucasus administrative units like the Rostov, Astrakhan', Groznyy Oblasts, and the Krasnodar, Stavropol' Krays are basically economic units. Those units which are essentially ethnic, though numerous (Adyge AO, Cherkess AO, Kabardian ASSR, North Ossetian ASSR, Dagestan ASSR) are not very important, and their population forms roughly only 10 per cent of that of the whole North Caucasus. The Soviet South Caucasus on the other hand, has only ethnic units. The South Caucasus, a relatively small area, is inhabited by three different non-Russian nations (Armenian, Azeri, Georgia), each of them with the status of a Soviet Socialistic Republic. The territory of these republics was handled during the Czarist regime as a single political and economic unit. This resulted in these republics being even today more interdependent than other Soviet units of a similar grade. The stock-raising of Armenia and